Umbilical cord blood stem cell transplantation for the treatment of ulcerative colitis

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Objective: Ulcerative colitis (UC) is a chronic non-specific intestinal inflammatory disease while up to now the etiology and pathogenesis are not entirely clear. The traditional treatments are 5-aminosalicylic acid, glucocorticoid and immunosuppressors but the safety and efficacy of drugs as above would decline after long-term use while the disease could break out repeatedly. Advances in our understanding of the cell populations involved in the pathogenetic processes and recent findings on the regenerative, trophic and immunoregulatory potentials of stem cells open new paths for UC therapy. This study is to analyze the therapeutic effect of the umbilical cord blood stem cell transplantation on the patients with ulcerative colitis.

Methods: The cases of UC were enrolled from Shandong Qianfoshan Hospital between December 2009 and December 2013. The treatment group (81 patients) was given stem cell therapy based on the traditional treatment while the control group (66 patients) was only treated with traditional treatment. The umbilical cord blood stem cells which were separated from 70 ml to 100 ml umbilical cord blood were transplanted into the intestinal tract through inferior mesenteric artery. The changes of clinical, endoscopic and pathological characteristics were recorded carefully and statistical analyses were carried out according to the disease activity score index.

Results: One week after the transplantation, the clinical symptoms and signs were significantly improved. After four weeks, the clinical symptoms and signs had almost disappeared and never relapsed in 24 weeks. Colonoscopy examinations displayed that the intestinal inflammation disappeared and the blood vessels texture became clear while inflammatory polyps reduced. There were two patients who suffered from low fever after transplantation. Not any other adverse reaction occurred in 24 weeks. The patients in control group were also becoming better but most of them relapsed in 24 weeks. According to statistical analysis, stem cell therapy is more effective than traditional treatments.

Conclusions: Umbilical cord blood stem cell transplantation in the treatment of ulcerative colitis can significantly reduce inflammation, repair the injured intestinal mucosa and reduce the complications. It will greatly improve the patients’ life quality while its long-term outcome is better than traditional treatments. Therefore, the stem cell therapy is of high value in use for UC.

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Interrelation between helicobacter pylori infection, infantile colic and irritable bowel syndrome in pediatric patients

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Objectives: To determine whether irritable bowel syndrome is associated with Helicobacter pylori infection and infantile colic.

Methods: A retrospective case controlled study was conducted in a local tertiary hospital, Muhayel Aseer (Abha, Saudi Arabia), Abo Hareez Hospital (Sharkia, Egypt) and Hussein University Hospital (Cairo, Egypt). Four hundred and fifty cases of irritable bowel syndrome (IBS) that met the Rome III criteria and one hundred controls (IBS-negative), aged 7-17 years old, were involved in this study. Complete stool analysis including Helicobacter pylori stool antigen test and occult blood in addition to urea breath test, if necessary, were carried out for all pediatric participants.

Results: Of the total 450 IBS cases, 212 (47.1%) had reported infantile colic at age 0 - 4 months compared to 7 (7.0%) in control group and family history of IBS was evident in case group (n= 315; 70.0%) versus control group (n=10; 10.0%). Furthermore, H. pylori was present in 192 (42.7%) of IBS cases compared to only 8 (8.0%) in control group.

Conclusion: Our findings provide new correlations between childhood IBS and infantile colic as well as H. pylori infection. Moreover, a significant association was found between infantile IBS and family history of IBS.

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